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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,396	10/16/2001	Hans Mickelsson	040001-048	3035
37825	7590	11/29/2005	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR C11 PLANO, TX 75024			TRAN, DZUNG D	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/977,396

Applicant(s)

MICKELSSON ET AL.

Examiner

Dzung D Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Specification***

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-8, 10-20 and 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves et al. US publication no. 2002/0191250 in view of Deng et al. US publication no. 2002/0196491.

Regarding claim 13, Graves discloses in figure 3, a system for integrating a fiber optic fixed access network and a fiber optic radio access network, comprising:

a second edge photonic switch 14b (same as a first wavelength multiplexer) comprising:

a radio access unit 10 for transmitting and receiving radio unit user communications with the at least one radio unit 8; and

a fixed access unit 4c for transmitting and receiving fixed access communications with fixed access subscriber (page 8, paragraph 0096, line 4); and

a multiplexer unit 12c, 12d (same as claimed multiplexer unit) for multiplexing the radio communications and the fixed access communications onto fiber 13c, 13d; and

a first edge photonic switch 14a (same as a second wavelength multiplexer) that receives the multiplexed communications on fiber communication link 17a from the first

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multiplexer (e.g., a first edge photonic switch 14b) de-multiplexes the multiplexed communications on fiber communication link 17a and transmits the fixed access user communications to the fixed access network (4a, 4b) and transmits the radio unit user communications to radio network component (e.g., since the first and second edge photonic switch 14a, 14b perform the same function, it is inherently that the edge photonic switch 14a also transmits the radio user communication to a radio network component (not shown)).

Grave differs from claim 13 of the present invention in that Grave does not specifically disclose the first and second edge photonic switch 14a, 14b are the passive wavelength multiplexer.

Deng discloses a passive wavelength router (e.g., passive multiplexer/demultiplexer) employing fiber mux/demux construction for mux/demux CWDM signal (page 2, paragraph 0015). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to replace the edge photonic switches of Grave with the passive wavelength router taught by Deng. One of ordinary skill in the art would have been motivated to do this in order to reduce cost, and avoid transmission penalties (e.g., crosstalk), see page 2, paragraph 0016 of Deng. Furthermore, the specification page 15 discloses that the multiplexers can be passive multiplexer or passive multiplexer.

Regarding claim 16, Graves discloses in figure 13, the first and second edge photonic switch 14 including Ethernet switches 404 (page 22, paragraph 0191, line 8, paragraph 0194, line 2) that each include a wavelength multiplexer 62, 67.

Regarding claim 17, Graves discloses the wavelength multiplexer performs optical coarse wavelength division multiplexing (page 22, paragraph 0191, lines 10-12, paragraph 0194, lines 6-7).

Regarding claim 18, Graves discloses the fiber optic 17b is connected between the first and second edge photonic switch 14.

Regarding claims 1, 7, 14, 15, 19, 25 and 27, Graves discloses a system for integrating a fiber optic fixed access network and a fiber optic radio access network, comprising:

at least one radio unit 10 (page 8, paragraph 0095, lines 5-6) for transmitting and receiving communications with at least one mobile unit 8 (page 8, paragraph 0095, line 4);

a second edge photonic switch 14b (same as a first wavelength multiplexer) for transmitting and receiving the communications with the at least one radio unit 10 and fixed access communications 13c, 13d (page 8, paragraph 0095, line 2, paragraph 0096, line 2) with at least one fixed access subscriber 4c (page 8, paragraph 0096, line 4) wherein the first multiplexer is connected to each of the at least one radio unit 10 and to each of the at least one fixed access subscriber using fiber optic connections 13c, 13d (page 8, paragraph 0095, line 2, paragraph 0096, line 2), and wherein the S-DWDM carrier wavelengths are pre-assigned to each access multiplexer (12a, 12b, 12c, 12d) (page 8, paragraph 0099, lines 4-5), a wavelength converter 408 of figure 13; and

wherein a second edge photonic switch 14b (same as a first wavelength multiplexer) for multiplexing the radio communications on fiber 13c and the fixed access communications on fiber 13d are multiplexed onto a fiber communication link 17a; and

a first edge photonic switch 14a (same as claimed a second wavelength multiplexer), wherein the communications and the fixed access communications are transmitted and received together between the second edge photonic switch 14b (same as claimed first wavelength multiplexer) and the first edge photonic switch 14a (same as claimed a second wavelength multiplexer) through the fiber optic fixed access network 17a.

Grave differs from claim 1, 7, 14, 15, 19, 25 and 27 of the present invention in that Grave does not specifically disclose the first and second edge photonic switch 14a, 14b are the passive wavelength multiplexer. However, the specification page 15 discloses that the multiplexers can be passive multiplexer or passive multiplexer and the radio unit using the wavelength that is different from that used to communication with a fixed access subscriber.

Deng discloses a passive wavelength router (e.g., passive multiplexer/demultiplexer) employing fiber mux/demux construction for mux/demux CWDM signal (page 2, paragraph 0015). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to replace the edge photonic switches of Grave with the passive wavelength router taught by Deng. One of ordinary skill in the art would have been motivated to do this in order to reduce cost, and

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avoid transmission penalties (e.g., crosstalk), see page 2, paragraph 0016 of Deng. Furthermore, the specification page 15 discloses that the multiplexers can be passive multiplexer or passive multiplexer.

Furthermore, even though Graves does not specifically disclose radio unit using the wavelength that is different from that used to communication with a fixed access subscriber. However, Graves discloses DWDM carrier wavelengths are pre-assigned to each access multiplexer (12a, 12b, 12c, 12d) (page 8, paragraph 0099, lines 4-5) (e.g. per each of radio unit and fixed access subscriber), therefore, it would have been obvious that each of radio unit and fixed access subscriber can be assigned different wavelength. It is notoriously known in the art that in a DWDM system, different wavelength can be assigned per each user or group of users.

Regarding claims 2, 20 and 26, Graves discloses at least one main unit (e.g. core node 16), connected to the first edge photonic switch 14a (same as claimed a second multiplexer), for transmitting and receiving the communications with the first edge photonic switch 14a.

Regarding claims 4, 22 and 28, Graves discloses in figure 13, the first and second edge photonic switch 14 including Ethernet switches 404 (page 22, paragraph 0191, line 8, paragraph 0194, line 2) that each include a wavelength multiplexer 62, 67.

Regarding claims 5, 23 and 29, Graves discloses the wavelength multiplexer performs optical coarse wavelength division multiplexing (page 22, paragraph 0191, lines 10-12, paragraph 0194, lines 6-7).

Regarding claims 6, 24 and 30, Graves discloses the fiber optic 17b is connected between the first and second edge photonic switch 14b.

Regarding claim 8, Graves discloses at least one main unit (e.g., edge photonic switch 14c) connected to the second multiplexer (e.g., edge photonic switch 14b) for transmitting and receiving the radio unit communications on fiber 13c and with a radio network 4a, 4b.

Regarding claim 10, Graves discloses the first and second multiplexer (e.g., edge photonic switch 14) includes Ethernet switch 404a (see figure 12)

Regarding claim 11, Deng discloses a passive wavelength router employing fiber mux/demux construction for mux/demux CWDM signal (page 2, paragraph 0015).

Regarding claim 12, Graves discloses fibers 13c, 13d, 17a, 17b, 13a, 13b connected between the fixed access unit the radio access unit and the multiplexers.

3. Claims 3, 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves et al. US publication no. 2002/0191250 in view of Deng et al. US publication no. 2002/0196491 and further in view of Nishihara U.S. patent no. 6,512,616.

Regarding claims 3, 9 and 21, the combination of Graves and Deng disclose all the limitations except for the system further comprising: means for distributing a reference clock signal through the fiber optic fixed access network at a wavelength that is different from that used to transmit and receive the communications with each of the at least one radio unit and different from that used to transmit and receive the fixed access communications with the at least one fixed access subscriber. Nishihara



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discloses an optical system having a clock master unit 134 (col. 11, line 47) for generating and distributing a clock signal wavelength ( $\lambda_2$ ) 108 through out the optical system. It would have been obvious to an artisan at the time of the invention was made to include the teaching of Nishihara in the transmission system of Graves and Deng. One of ordinary skill in the art would have been motivated to do this since clock signal is well known in the art for synchronize the optical signal between the networks (specially in the SONET system) and for achieving accurate retiming, thus, it improves reliability of the optical system.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Tran whose telephone number is (571) 272-3025.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jason Chan, can be reached on (571) 272-3022.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

*Dzung Tran*

Dzung Tran

11/26/2005